

Risk Assessment for Post-disaster Infectious Diseases Caused by the 2024 Noto Peninsula Earthquake in Ishikawa Prefecture
(as of January 5, 2024)

National Institute of Infectious Diseases, Japan

	① Probability of outbreak in affected area/evacuation center	② Public health importance	③ Overall risk	Rationales
1. Low, 2. Medium, 3. High				
Infectious diseases associated with overcrowding in evacuation centers				
Acute respiratory infections (influenza* and COVID-19* included)	3	2	3	The probability of outbreaks would be heightened if evacuation centers continue to be overcrowded. Currently, influenza activity is high both at prefecture level and nationwide, while COVID-19 is overall low. In evacuation centers, hand hygiene and cough etiquette should be maintained, including wearing masks, as much as possible considering the limitation in supplies. Additionally, the previous research on the Great East Japan Earthquake suggests the coldness, dehydration, and stress can be risk factors of pneumonia.
Waterborne/foodborne diseases				
Infectious gastroenteritis/acute diarrhea (Staphylococcus aureus, Salmonella, Campylobacter, EHEC, Noro virus, rotavirus*, etc.)	3	2	3	An outbreak of infectious gastroenteritis/acute diarrhea may occur due to difficulty in access to safe and clean water. Given the potentially high risks of infectious gastroenteritis/acute diarrhea in evacuation centers, it should be noted that, as well as strengthening hand hygiene measures, management of food hygiene and sanitary conditions in toilets be maintained. Evacuees, supporters, and other stakeholders in evacuation centers are encouraged to report any vomiting or diarrhea to those responsible for health issues in the evacuation centers.
Infectious diseases during post-disaster outdoor activities				
Tetanus*	2	3	3	An injury with exposure to mudflows or soil due to debris removal can pose a high risk of tetanus. Prompt vaccination with tetanus toxoid should be considered for individuals who have not had opportunity to receive routine vaccination (Especially, those who were born before 1968).
Wound-related skin and soft tissue infections	2	3	3	An injury with exposure to mudflows or soil due to debris removal can pose a risk of wound-related skin and soft tissue infections.
Legionnaires' disease	2	2	2	Exposure to aerosols and dust from unclean water or soil during post-disaster outdoor activities, such as debris removal, can pose a risk for Legionnaires' disease. It is important to note the necessity to wear a mask when working outdoors with potential exposure to aerosols and dust from unclean water or soil.
Infectious diseases at high levels under the National Infectious Diseases Surveillance				
Pharyngoconjunctival fever	3	2	3	The level in Ishikawa prefecture (sentinel surveillance) has been highest in the past six years. In evacuation centers, hand hygiene and cough etiquette should be maintained, including wearing masks, as much as possible considering the limitation in supplies.
Group A streptococcal pharyngitis	2	2	2	The level in Ishikawa prefecture (sentinel surveillance) has been high before the disaster. In evacuation centers, hand hygiene and cough etiquette should be maintained, including wearing masks, as much as possible considering the limitation in supplies.
Vaccine preventable diseases (VPDs)				
Measles	2	3	3	In 2023, only a few measles cases were reported nationwide, and none were in Ishikawa prefecture. However, even if a single case of measles (e.g. imported case) could have a significant impact on an evacuation center due to its transmissibility by airborne and severity particularly among susceptible individuals such as infants or those who are unvaccinated. It is crucial for the person in charge of an evacuation center to consider isolation of the affected individual.
Rubella	2	2	2	In 2023, only a few rubella cases were reported nationwide, and none were in Ishikawa prefecture. However, rubella can affect unvaccinated individuals including adults. It is essential to note that unvaccinated pregnant women are at risk of causing congenital rubella syndrome in their newborns (rubella vaccination during pregnancy is contraindicated).
Mumps	2	2	2	The mumps activity is low both nationally and prefectural level. However, the transmission could occur if the infection is brought into susceptible people staying at an evacuation center.
Chickenpox	2	2	2	Chickenpox outbreaks may occur at an evacuation center by airborne transmission. It should be noted that susceptible adults and pregnant women are at high risk of severity.
Pertussis	2	2	2	A pertussis outbreak may occur at an evacuation center by droplets and contact transmission. Infants are at a high risk of severe pertussis. When any person with a persistent cough is observed at an evacuation center, it is recommended to keep distance from infants and young children in addition to keep cough etiquette.
Pneumococcal disease	2	2	2	Pneumococcal disease can be transmitted by droplets. Following the Great East Japan Earthquake, many cases of pneumococcal pneumonia occurred within three weeks after the disaster.
Invasive meningococcal disease	1	3	2	Invasive meningococcal disease can lead to rapid and severe illness in some cases. It can be transmitted by droplets and may cause an outbreak in group-life settings.

* it can be recognized as VPD